

## **Section 4**

### ***Residual Strength***

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The strength of a structure can be significantly affected by the presence of a crack and is usually substantially lower than the strength of the undamaged structure. To prevent catastrophic failure, one must evaluate the load carrying capacity that will exist in the potentially cracked structure throughout its expected service life. The load carrying capacity of a cracked structure is the residual strength of that structure and it is a function of material toughness, crack size, crack geometry and structural configuration.